TOMORROW'S Classroom

Story by MAJ Stephan Pacard Photos by Tech. Sgt. Gerold Gamble

PUPILS from Thornburg Middle School in Spotsylvania, Va., sat at rapt attention, staring at the images of Earth being shown on the monitor at the front of their classroom.

"Many people say Earth from space looks like a big blue marble," a voice said. "How would you describe it?

"Come on, Thornburg. Let's hear from you," the voice cajoled when there was no response.

"A ball?" one student ventured.

"Yes, it does look like a ball," the voice responded, and now the speaker's image came onscreen as she asked for other descriptions.

One by one, the children responded, and Cheri Jurls, a distance learning education teacher working for the National Aeronautics and Space Administration, continued to encourage participation.

Then students from Hebrew Day Institute of Silver Spring, Md., joined in the conversation, from a facility several miles away.

"I think it looks icy — like a snow globe," said 12-year-old Hebrew Day student Daniella Bardack.

"That's great," Jurls said. She worked patiently with the children at both locations, and her audiences responded with enthusiasm, notwithstanding the fact that she was more than 1,500 miles from either classroom.

The hour-long interactive session, conducted in April, was a test of an emerging partnership between NASA and the National Guard Bureau to deliver space and science educational programs nationwide. The session marked the first time pupils at different locations simultaneously participated in NGB-distributed NASA educational programming, opening the way to reaching thousands of students across the country in the near future.

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Virginia and Maryland schoolchildren were the first to try out an emerging National Guard Bureau-NASA partnership program intended to increase children's interest in science.

A New Way to Learn

The students confessed they were a little nervous at first, having left their comfortable school environments to work in unfamiliar classrooms equipped with computers, microphones, and headsets — and the video cameras the children would look into when it came time to respond to a question.

Before long, however, they were eagerly raising their hands to interact with the NASA instructors — and with students at other locations.

A Wider Reach

One of NASA's missions is to share knowledge gained from its space programs with U.S. citizens, particularly the nation's young people. Working closely with the space agency's scientists, engineers and astronauts, NASA educators have created a variety of educational materials and programming for live interactive sessions and television broadcasts. What they lacked, though, were mechanisms to permit direct, face-to-face interaction with larger audiences at multiple locations.

"NASA's education division has been developing programs to generate interest in math and science among middle- and high-school students, and to attract them to careers in these fields," said Susan Anderson, director of NASA's Johnson Space Center Office of Education in Houston, Texas. "The National Guard Bureau, through its Distributive Training Technology Project, will enable us to reach a much wider audience — including students without access to technological resources, who might not otherwise be able to participate in these programs."

DTTP is a distributed-learning initiative that has revolutionized how the Guard promotes military readiness, providing training for soldiers while simultaneously reducing costs and improving morale. The DTTP network consists of more than 300 classrooms, located in state-designated areas such as armories, schools and libraries. Plans call for more than 450 classroom installations by 2003, with the goal of maintaining a classroom within 50 miles of virtually every soldier in the country.

Proofs of Concept

The three demonstrations of the system that have so far been conducted have engaged students in different parts of the country, and more such exercises are being planned.

The first demonstration took place in March. Working from the DTTP classroom at the Regional Training Institute in Austin, Texas, students from Kealing Junior High explored "Space Farming" with educators from NASA's Johnson Space Center, where the program originated.

The second demonstration, involving Thornburg, Hebrew Day and Austin's Bartlett High School, took place in April and had students discussing "Imagery from Space." Using satellite images and interactive graphics, the educators led the students through discussions about Earth's geological history, cataclysmic events such as volcanic eruptions and meteor strikes, and the long-term effects of human activity on the planet.

In the third demonstration, held in May, fourth-grade students from Springwoods Elementary School in Woodbridge, Va., explored "The Effects of Space on the Human Body," covering topics such as bone and muscle degradation, cardiovascular system changes and space sickness, and exploring ways to prevent or mitigate such problems.

"This is definitely the direction to go for future education," said 12-year-old Rachael Picard from Thornburg. "Talking live with someone who's actually 'been there and done that' makes it so much more fun to learn." □

The children viewed images of Earth from space and could ask questions during a one-hour, interactive session with a NASA distance-learning teacher.